



## How to Write (Even) Better Academic Student Reports and Papers

*Some Advices to Students*

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# **How to Write (Even) Better Academic Student Reports and Papers**

*Some Advices to Students*

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*This academic writing guide written to university students is  
work-in-progress and it is comprehensive, not exhaustive.*

*Please feel free to comment.*

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**STRUCTURE AND CONTENT OF AN ACADEMIC REPORT OR PAPER (THEME ONE)**

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## INTRODUCTION

Writing high-quality academic reports or papers that demonstrate academic rigour is not necessarily easy for university students. Common problems include developing a clear purpose statement and study aim, identifying the relevant literature, using theory, designing and applying methods, analysing data and discussing your findings. To help you overcome these common challenges, my aim with this academic writing guide is to give students simple and powerful insights about how to improve their academic writing and rigour. Besides being a guide, you can use it as a checklist before you hand the report or paper in.

I cover 31 topics structured into two themes: (a) Structure and content of an academic report or paper and (b) General tips and tricks. Each topic consists of two to five bullet points where I concisely explain and exemplify why each topic is important for writing high-quality academic student reports and papers. This writing style also makes the guide quick and easy to read. I hope that this academic writing guide encourages you to write your report or paper in a (even) more compelling and reader friendly style. This revised 2018 version contains approx. 30% more text and it elaborates on topics that were too briefly explained and exemplified in the 2017 version.

The theme about *Structure and content of an academic report or paper* covers the seven parts that typically make up an academic piece of work: introduction (setting the hook and stating your study aim); theory or literature review (presenting the literature you use and contribute to); methods (explaining how you studied the study aim); findings (showing the outcome of the data analysis); discussion (reflecting on the findings); conclusion (answering the research question); and references (presenting the knowledge reservoir). The theme about *General tips and tricks* provides rules of thumb (e.g., that you should kill your darlings), writing style and argumentation hints (e.g., use direct voice) and layout inputs (e.g., use the same format and font throughout).

The themes and topics build on existing literature about academic writing (see the reference list) and my experience with publishing and reading journal articles and supervising, reading and grading student reports and papers. I am thus sure that most university supervisors and external examiners will agree with most, if not all, of the topics in this academic writing guide

Please note that this guide is work-in-progress and that it represents a comprehensive, not exhaustive piece of work. Moreover, the guide is written with the Aalborg University model of problem-based learning in mind<sup>1</sup>. Please feel free to comment on the themes and topics.

Thim Prætorius, August 2018

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<sup>1</sup> Aalborg University follows the approach called the Aalborg University Model of Problem Based Learning (PBL). PBL means that AAU students need to build a bridge between two related yet different worlds. On one hand, you should solve problems of relevance to the real world and on the other hand, you should do this problem solving with academic rigor. A key challenge is therefore to balance and integrate these two approaches. This document focuses specifically on aspects related to academic rigor as this element is central element in the assessment of a project. The concrete results you create for the companies and organizations you typically work with have very little if any weight in the assessment of the project.

*Theme one***STRUCTURE AND CONTENT OF AN ACADEMIC REPORT OR PAPER**

This theme covers the seven parts that typically make up an academic piece of work: introduction, theory or literature review, methods, findings, discussion, conclusion, and references. One reason why you should write in this order is that, for example, writing the methods before theory means you need to operationalize theory before you have written about theory! Other well-thought report structures may also be relevant, but be careful.

**Introduction – what you study (part one)****1. Set the hook**

- The fundamental question to answer in the introduction is: "What is this paper really about?" (Schminke, 2004, p.311). To answer what your student report or paper is about, it is useful to break the introduction into three parts (paragraphs) each consisting of 200-300 words. The content of each of the three parts varies across different authors. Here I present three approaches that I find useful:
  - i. Grant & Pollock (2011, p.873) argue that a convincing introduction answers three sets of questions: First, 'Who cares? What is the topic or research question, and why is it interesting and important in theory and practice?' Second, 'What do we know, what don't we know, and so what? What key theoretical perspectives and empirical findings have already informed the topic or question? What major, unaddressed puzzle, controversy, or paradox does this study address, and why does it need to be addressed?' Third, 'What will we learn? How does your study fundamentally change, challenge, or advance scholars' understanding.' Relatedly, you should also tell how your findings can improve firms and practitioners knowledge and decisions.
  - ii. Basbøll (2018) divides the three parts into 'the world', 'the science' and 'this paper'. The world concerns outlining relevant real-life developments and changes in society (e.g., big data, e-business and cloud services) that you subsequently want to study and understand. The science part relates to the world by adding what is known from the scientific literature about what the key controversies and consensus are. The controversy and consensus may, for example, concern opposing or synergistic theoretical concepts or empirical findings. The part about this paper concisely presents your study aim and study findings and it also tells briefly about the theory and methods used and in what ways the findings are important.

- iii. Reed (2010) recommends, first, establishing the knowledge territory, second, establishing the niche you study and showing its importance to the field, and, third, occupying the established niche by developing the purpose statement where you present what you study and why.
- Breaking the introduction into such three parts help you pitch the problem and the report or paper aim, thereby engaging the reader so that she or he wants to read on<sup>2</sup>. Most readers make the decision to read or not very quickly so it is paramount to provide your unique selling points clearly and early! Therefore, provide solid arguments that clearly spell out why a reader should find your report or paper interesting and relevant. Think beyond why the problem you study is important to the case company you collaborate with or study. For example, identify how your study aim and subsequent findings are relevant to the larger professional and research community. In doing so, consider what the academic contribution of your paper is (e.g., adding details to existing theory and knowledge or developing a process model) because you are not only solving a consultancy task for a case company. However, you should still highlight why the report or paper is relevant for the case company.

## 2. The research question decides everything (so formulate it wisely)

- Decide if you want to study a how, why or what type of research question. Sometimes you may also want to cover more than one type of research question in the same report. This decision, importantly, also informs your choice of theories and models, research design and data collection techniques because, for example, an exploratory ‘how type of question’ usually requires a qualitative research design more suitable for studying things in details. Thus, the research question is the guiding light!
- Combine theory and practice in an intelligent and contingent manner to solve un-familiar and challenging problems. Solve real life problems academically by relying on a strong theoretical and methodological approach.
- Your research question should be formulated in a clear, concise and short sentence and should neither be too broad nor too narrow. Moreover, you should be able to provide the necessary academic reasoning leading up the research question. . You are allowed to expand on the research question in subsequent text by adding sub-questions or explaining in more detail what the research question covers.
- You cannot study everything so you must delimit your research topic and question (or set of questions) to make it researchable, manageable and possible to answer. Relatedly, you cannot solve every

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<sup>2</sup> In contrast to journal articles and books, the readers of student reports or papers are usually limited to a supervisor and an external examiner who are required to read the report or paper. In spite of this, your supervisor and external examiner will always appreciate reading a well-pitched introduction. One reason is that a strong introduction sets the scene nicely and raises expectations that the other report or paper parts will also be of high quality that in turn most likely will lead to a higher grade.

problem a case company wants you to study. The delimitation is not always an analytical process as the choice may also depend on how you focus the project or problem (study aim).

- Consider breaking your research question into a practical and theoretical. For example, a theoretical problem may be ‘How does internationalization influence the value chains of a firm’ and the corresponding practical problem could be along the lines of ‘How does company X internationalize its production’.
- Use the same research question formulation throughout the report or paper. For some reason students often change the wording, but this confuses the reader and makes him or her unsure about the purpose and direction of the report or paper.
- When developing semester and master thesis projects at Aalborg University, you must focus on root-causes and not just symptoms when deciding on the research question. This sometimes requires initial (explorative) analysis to find the “real” problem as you should not simply take initial information provided by the case company at face value. The root cause analysis in turn determines your choice of theories: a choice based on their relevance as an analytical and problem solving tool.

### 3. Do what you say you want to do (that is, execute)

- Do what you say you want to do basically concerns executing and aligning. Execution means delivering on what you promise the reader to study and answer (as reflected in the research question and the build-up). Unfortunately, some students fail because their report or paper is misaligned. An aligned piece of work means that the research question fits the other parts; i.e., select relevant theories, use an appropriate method (e.g., how or why questions typically require qualitative research approaches), provide analytical input to the research question in the results section and answer and reflect about your research question in the discussion and conclusion sections.
- The alignment criteria also means that if you make a change in one part of the report or paper, then you most likely also must make changes in another part (one or more)! For example, if you change the research question (e.g., from what to how), you must also consider how this influences the choice of appropriate data collection mechanisms (e.g., from a survey to observations).

### 4. Revise the introduction continuously (and also before you hand in)

- The learning and knowledge you acquire along the way from, for example, reading literature and collecting and analyzing data must be reflected in your introduction (and other parts of the report or paper as needed). To give you an idea of how important rewriting is it is telling that an Best Article Award winner in the Academy Management Journal rewrites the introduction more than ten times on average (Grant & Pollock, 2011)!

*Resources:*



- Pitching your research question and setting the hook in the reader: (Colquitt & George, 2011; Barley, 2006; Bergh, 2003; Grant & Pollock, 2011; Patriotta, 2017).
- Formulating research problems and questions: (Sandberg & Alvesson, 2011; Alvesson & Sandberg, 2011; Van de Ven, 2007).

## **Theory and literature review – what we know (part two)**

### **5. Theories (or models and concepts) serve a purpose**

- The theory and literature review part of the report or paper (along with the introduction) essentially shows the reader the particular and relevant literature you draw on and contribute to, that is, the scientific knowledge depository. Topic 6 elaborates further on the literature review.
- The theories you select determine the concepts and constructs you should operationalize in relation to the selected data collection mechanisms (when working deductively). Topic 9 elaborates more on operationalization of theory.
- You typically need to put together your own theoretical framework with contributions from different theories or literatures. Building a tailor-made theoretical framework also allows you to demonstrate your analytical skills and make the theory section much more compelling: something evaluators will appreciate. As part of this you should clarify why you selected the theory(ies) and make it clear how and why the theories fit together and contribute to answer your research question. Describe and discuss also how you have adapted theories to your specific situation and research question. In most cases, an “off-the-shelf, fits-all” theory also does not exist and does not fit your particular research question.

### **6. Use the best available literature by reviewing the literature**

- A literature review maps and assesses the relevant intellectual territory, thereby outlining and enhancing the knowledge base and helping make sense of a mass of often-contradictory knowledge and evidence (Tranfield et al., 2003). In other words, you need to know (and demonstrate you know this) what research already has taught us about the topic you investigate.
- Tailor the literature review to the research question. Litmus test: if the theory section easily can be copy pasted across student reports or papers, then you have not tailored it closely enough to the research question (i.e., it is too generic).
- Use scientific databases such as Business Source Premier or Web of Science (available through AUB at [www.en.aub.aau.dk/find-material/databases](http://www.en.aub.aau.dk/find-material/databases)).
- Google Scholar is good for getting an idea or initial overview of your research topic. Review also the literature cited in the publications you find on the topic to cover related sources of knowledge. Books can also be fine for getting a basic overview of a field (however, do not rely too extensively on books as some students do and do not necessarily discard them completely).

- Remember to document how you searched for what (keywords used), where (scientific databases) and what you found (articles identified). If you do not, then you violate the academic rule of transparency.
- A good way to identify keywords is distilling the research question. One example could be that supply chain, collaboration and innovation stands out as important keywords. Next, you must identify relevant synonyms, for example, Gulati, Wohlgezogen, & Zhelyazkov (2012) breaks collaboration into cooperation and coordination so it would be appropriate if you added these two concepts to your search strings.
- Use truncation (\*) and wildcard symbols (?) to refine the literature search when you use scientific databases such as Business Source Premier or Web of Science.

|  | Truncation Symbol<br>(number of characters) | Example | Finds                                |
|--|---|---------|--------------------------------------|
| <b>EBSCO<br/>DATABASES</b><br>(Academic Search Premier,<br>ERIC, Psychlit, etc.) | * (one or more)                             | comput* | computer, computing, compute, etc... |
|  | ? (exactly one)                             | ne?t    | neat, next, nest, newt, etc...       |
|  | ??? (multiple ? ok)                         | bank??? | bankers, banking                     |

#### *Resources:*

- About theory and theory development: (Sparrowe & Mayer, 2011; Whetten & Rodgers, 2013; Ashkanasy, 2016; Van de Ven, 1989; Shepherd & Suddaby, 2017; Sutton & Staw, 1995; Hambrick, 2007).
- How to review the literature systematically: (Tranfield et al., 2003; Moher et al., 2009; Wong et al., 2013)
- Get inspiration from top ranking review journals such as International Journal of Management Reviews or Academy of Management Review. Each article in empirical journals such as Management Science, Organization Science or Academy of Management Journal also contain elaborate literature reviews where the focus is on reviewing the literature to build tailored theoretical frameworks suitable for studying the research question.
- The librarians at the university are also willing to help you during your literature review.

### **Methods – what you did (part three)**

#### 7. Write what you did, how and why (the reader does know what you know!)

- Four main sections are typically needed to document and explain how you carried out the study:
  - (1) Research design (e.g., action research, a case study, survey, register study or field study).
  - (2) Case selection and case overview (if relevant to your study). When you perform a case study, which many students do, you must reflect about, for example, why and how the case was selected, why the case is insightful regarding the research question.

- (3) Data collection methods. This could be quantitatively using, e.g., surveys, firm or panel data, qualitatively using, e.g., interviews, documents or observations or a mix of these approaches. This section is also where you explain how you operationalized theory (Topic 9 elaborates on this). The strategy for selecting respondents should also be discussed here.
- (4) Data analysis is where you describe how you analysed the collected qualitative or quantitative data. (Topic 10 elaborates on data analysis).
- The litmus test is providing enough information so that others can assess the quality of the findings and conclusions and, if they wanted to, could replicate the study. If it is unclear what you did, the reader may assume that you do not know or that you are trying to hide something, for example, that you did a sloppy piece of methodological work. Thus, a high level of granularity is needed as academic transparency is vital for good science!
- Avoid an overly complex methods section. Only include those terms and concepts that are needed and relevant for your report and paper.
- Make sure that you do what write! For example, students often take a research philosophical standpoint (e.g., constructivist) without any consideration about how this choice influences data collection and data analysis.
- Writing the methods section in past tense is usually advantageous. One reason is that it pushes you to write what you did and why, thereby helping you to move beyond sounding like you copied a textbook.

#### 8. A good project requires collecting good data

- To answer a research question thoroughly you must collect or obtain high-quality data (and often of different types). This in turn means that you need to think carefully about whether you are actually able to study the research question. For example, it can be difficult to collect the needed data because case or respondent access is virtually impossible (firms, managers and staff are usually very busy) or data is limited within the case (for example, a firm may not store the data you need). Relatedly, as the data you need often must be “created” and collected by yourselves a key task is developing instruments for this data collection, e.g., using questionnaires, interview guides and observation sheets.

#### 9. Operationalise theory in the methods section

- When working deductively, operationalization is about identifying (from theory) measurable, observable or identifiable variables that you want to look for when you collect and analyse data. For example, if you are interested in studying how workers coordinate their actions to accomplish a collective task, then one option is to ask questions about or observe workers using Mintzberg’s (1980) five categories of coordination mechanisms, including mutual adjustment and standardization. This also shows that operationalization often requires breaking a theory or concept into smaller, more manageable parts.

- Describe how you used the selected theory in practice, that is, (a) how it informed, for example, the interview guide or survey questions and (b) the subsequent analysis of the collected data, cf. Topic 10.

#### 10. Explain how you analysed the data

- Data Analysis concerns the process of systematically, thoroughly and rigorously crunching data by applying appropriate analytical means to describe and illustrate, condense and recap, and evaluate data. For example, qualitative data can be analysed using displays where you code data using theoretical concepts and then sorted them into meaningful larger categories (Miles & Huberman, 1994). Quantitative data can be analysed using statistical analyses such as descriptive statistics, logistic regression, but also econometrically (Wooldridge, 2009).
- Data analysis is a central part in your report or paper as this is where you connect theory, methodology and data to develop new insights and findings (and in the end conclusions and recommendations). You basically must be able to answer two questions: How did you come to this result? How do we know that this is the right result? However, students too often “black-box” the analysis, thereby making it impossible for the reader to follow the logic and process from data to results. This is very unfortunate as it violates the scientific ideal of replication. You therefore must describe how you arrived at your findings and conclusion in a transparent manner.

#### 11. Time is always limited (and often the worst excuse around)!

- It is your responsibility to design a study that you can complete within the allocated time! To illustrate that time rarely is an issue, please bear in mind that AAU semester projects are allocated 15 ECTS\*30 hours\*no. of students so for a typical group this amounts to 2.250 hours of student work (15\*30\*5 hours)!

#### *Resources:*

- Describing your method: (Zhang & Shaw, 2012)
- Get inspiration from top ranking journals such as Organization Science, Management Science and Academy of Management Journal.

## **Results, Analysis or findings – what you found (part four)**

### **12. Present the outcome of the data analysis in a clear and easy to follow way**

- Make sure you emphasise your key findings. Not all results are equally important and interesting
- Results, findings and recommendations must be based on your own actual analysis of the collected data. The keyword is transparency all the way from data collection over data analysis to data presentation!
- In quantitative studies, the findings section tends to be rather short as tables (showing numerical data) present results and you only write about the main findings in the main text.
- In qualitative studies, the findings section tends to be long because you have to present your findings in words. Still, tables and figures are often also excellent means for presenting qualitative findings as such displays are “organized, compressed assembly of information [that] permits conclusion drawing and action” (Miles & Huberman, 1994, p.11).
- You should not discuss the practical and theoretical implications of your findings in the analysis section. You should also not cite literature in the analysis. Both of these important activities should be part of the subsequent discussion section (see Topic 13).

#### *Resources:*

- How to presenting your results: (Zhang & Shaw, 2012).
- How to present (and analyse) qualitative data: (Miles & Huberman, 1994)

## **Discussion – what your findings mean and add (part five)**

### **13. A discussion is a reflection after an act (and not a second round of analysis)**

- Four main sections are typically needed to discuss what your findings mean and add to the existing knowledge depository: practical implications, theoretical implications, study limitations and future research.
- Practical implications. Discuss, for example, what can the case firm and other practitioners and managers learn from your study and are your analytical derived recommendations feasible in real-life, that is, are they difficult and/or expensive to implement?
- Theoretical implications. Discuss, for example, how do your findings fit with what we already know and how does your findings add to or amend established theory?
- Study limitations. Discuss, for example, how generalizable is your study, how could it be improved, and what are the advantages and disadvantages of your study?
- Future research. Discuss, for example, what to study next to take this new knowledge to the next level, that is, what is the logical next step?

*Resources:*

- Crafting the discussion: (Geletkanycz & Tepper, 2012)

**Conclusion – what we have learned (part six)****14. Make sure that you answer your research question!**

- This section often needs to be rewritten several times to align with the introduction and concisely highlight the main merits of your report or paper.
- The conclusions should be aligned with and flow from the analysis. Unfortunately, some students include (new) results in the conclusions without them being connected to the analysis, e.g., if the student knows the company well and possesses additional knowledge.

**Reference list and in-text references (part seven)****15. A reference list must be accurate and follow a specific citation style**

- The Harvard or APA standards, among others, are useful for aligning with a specific reference style including in-text citations and how to structure the reference list. Mendeley presented in Topic 16 can help you with both tasks.
- Using (relevant) references shows you know the relevant literature, and that you are building your study and findings on existing research. Topic 26 expands on the need for strong references.
- Not all references are equally important. Make sure to cite the most influential one (high-ranked journals, highly cited articles, ground-breaking articles and books etc.).

**16. Use a reference management software**

- Mendeley is very good at managing in-text citations and creating and maintaining the reference list (available for free at [www.mendeley.com](http://www.mendeley.com)). It is easy to use and it will save you a lot of hours. Another freeware alternative is Zotero ([zotero.org](http://zotero.org)). Video tutorials of how to use reference management software are easily found on the internet and university libraries often also offer introductory courses.

**Appendices (a few cautionary words)****17. Use appendices carefully and mostly (only) as a means of documentation**

- Students often put important things in an appendix even when it more value-adding to have it in the main text. For example, many students only mention in passing the content of an interview guide or survey in the methods section. Often it is simply stated that such important aspects of the paper can

be seen in an appendix when it should be described in detail in the text to make sure that the reader can follow your logic (see also the methods section above).

- In general, appendices are mostly for documentation. Interview transcripts, firm documents, survey responses are some examples.

### *Theme two*

## **GENERAL TIPS AND TRICKS**

### **Rules of thumb**

#### 18. Why is (probably) the best word you can ask over and over

- When going through your report or paper, then ask, among other things, ‘why this research question’, ‘why this theory’, ‘why this method’, ‘why present the results in this way’ or ‘why discuss this or that’ etc. If what you have written does not help you answer your research question, then it may not be relevant to keep!

#### 19. Need to know versus nice to know (add value throughout!)

- Go through the paper and determine if something is just nice to know. If so, replace it with something that is need to know, thereby adding more value to the paper. Take the case description as an example: it is perhaps nice-to-know about the founders of a firm, but if you study supply chains then using that space for diving deeper into this need-to-know aspect is probably more valuable.

#### 20. Apply the KISS principle (keep it simple stupid)

- A design principle stating that “most systems work best if they are kept simple rather than made complicated; therefore simplicity should be a key goal in design and unnecessary complexity should be avoided”. Reducing unnecessary complexity is also relevant for your writing, for example, avoid using overtly complex or theoretical terms, and be particular aware that you know what you are talking about!

#### 21. If you can't explain it to an outsider you don't understand it yourself

- This idea basically says that if you have understood something, then you should be able to explain it to others (e.g., your grandfather) so they understand what you have understood. Applied to student reports or papers, the litmus test is that you in a simple and understandable way can tell someone who has no background knowledge about what the report or paper is about and what you found.

**22. Kill your darlings!**

- The literary advice of having to kill your darlings means that sometimes you have to remove even your most precious passages or sections for the greater good of your literary work even though these may hold special meaning to you. In similar words, do not keep a text piece just because you have spent a lot of time writing it!
- The same goes for empirical work, although you may have spent a lot of effort on a certain analysis it may be irrelevant for the overall research question.

**23. Turn what you did into an asset (but do not make things up!)**

- Do not excuse everything you did (along the lines of ‘if only we have had more time’) and do not make things up to make things sound better!
- For example, even if you have access to a firm because a family member works there, you must still think hard about why that firm is an interesting case regarding the research question (this essentially concerns your case selection strategy and criteria). To illustrate, Sonenshein (2014) writes the following about his case selection: “While the organization’s growth was atypical, I reasoned that this extreme case might help elaborate theory [...] by compressing the time for growth and allowing a real-time investigation of it. I also received unusually strong access facilitated by a personal contact” (p.817).

**Writing style and argumentation****24. Divide the text into paragraphs that speaks to a central theme**

- Use paragraphs (approx. 200 words) because continuous pieces of text makes it difficult for the reader (and the writer) to follow the argument. Aim at six to ten sentences depending on the length of each sentence.
- Each paragraph must develop and express one topic sentence, that is, add information, explanation, examples or illustrations to the central theme or idea until the theme is fully developed. For example, Topic 1 explains how dividing the introduction into three parts can help you position and pitch your report or paper.
- The topic of one paragraph should follow logically from the topic of the previous and should lead on to the topic of the next paragraph.

**25. Use the active voice**

- The active voice pushes you to write more clearly because “[a]t the heart of every good sentence is a strong, precise verb; the converse is true as well-- at the core of most confusing, awkward, or wordy



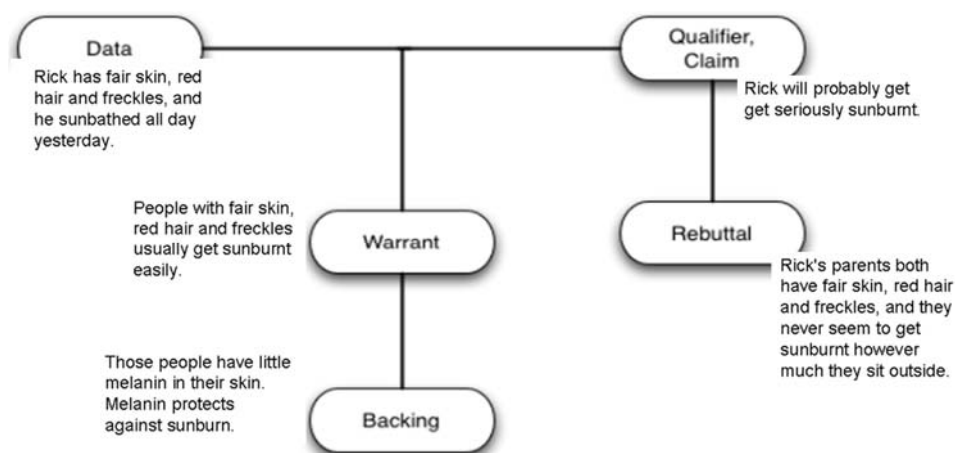
sentences lies a weak verb” (Williams, 1989). The sentence structure should follow a subject (S), verb (V) and object (O) logic. . An example:

- *Passive sentence*: It has earlier been demonstrated by Fischer (2000) that heart attacks can be caused by high stress (sentence logic: V then S then O)
- *Active sentence*: Fischer (2000) shows that high stress can cause heart attacks (sentence logic: S then V then O).

## 26. Back up your claims

- Toulmin’s (1958) model of argumentation (Figure 1) is a simple, yet powerful way to improve the quality of your argumentation because it requires you to back-up your claims!
  - *Claim*: The statement you argue for (e.g., Rick will probably get seriously sunburnt)
  - *Data*: The facts or evidence used to prove the argument (e.g., Rick has fair skin, red hair and freckles, and he sunbathed all day yesterday)
  - *Warrants*: The general, often implicit logical statements that serve as bridges between the claim and the data (e.g., people with fair skin, red hair and freckles usually get sunburnt easily).
  - *Qualifiers*: Statements that limit the strength of the argument or statements that propose the conditions under which the argument is true. (e.g., Rick used a low factor sun protection)
  - *Rebuttals*: Counter-arguments or statements indicating circumstances when the general argument does not hold true (e.g., Rick’s parents both have fair skin, red hair and freckles, and they never seem to get sunburnt however much they sit outside).
  - *Backing*: Statements that serve to support the warrants (e.g., people with fair skin have little melanin in their skin: melanin protects against sunburn.)

Figure 1: Toulmin’s model of argumentation



**27. Use references throughout (and the stronger the better)**

- Referring to the existing literature is important because it shows you know the knowledge depository and it improves the credibility of your report or paper.
- Peer-reviewed journal articles are the gold standard! Books (some) are also fine. However, not all journals and journal articles are equally credible because of, for example, poor peer-reviewing procedures.
- Use newspaper articles and web pages with care. Random web pages stating something is not scientific evidence. Check the authors' background and organisation and be very critical when judging the soundness of the source, for example, some organisations have a political agenda that may dominate their output.

**28. Write the report as if the study had occurred as a linear process!**

- The actual study process usually unfolds in a back and forth and stop and go manner that probably more resemble a spiralling process. However, you are recommended to write the report or paper as if things had occurred as a linear process. One important reason is that it makes it easier for others to understand the study purpose and how the study was carried out. This fits nicely with Kierkegaard's famous quote that "Life can only be understood backwards; but it must be lived forwards".

*Resources about writing and argumentation:*

- The elements of style: (Strunk Jr., 1935).
- [www.uefap.com/writing/writfram.htm](http://www.uefap.com/writing/writfram.htm) and <http://secondlanguage.blogspot.dk/p/writing-process-reengineering.html>. Other online resources can easily be found online.

**Layout****29. Tidy-up the paper layout**

- Use same font and heading styles and sizes etc. throughout the paper. This may sound basic, but student reports often look like they have been put together just before deadline.

**30. Use headlines to help the reader understand and navigate the report**

- Insert a heading when you change to another, different topic.
- Do not use more than three levels of headings (i.e., 1, 1.1, and 1.1.1.). For one, it pushes you to consider how and what you present in each part of the report or paper.

### 31. Tables and figures must be self-explanatory and self-contained

- Tables and figures are powerful graphical presentations that can (a) enhance a reader's understanding of the information (e.g., the outcome of an analysis) and (b) make the presentation of that information more efficient. Too many figures and tables, however, can blur the overall narrative.
- Tables and figures must be easily understood without having to read the main paper text: in short, a table or figure must be self-explanatory and self-contained! To that end, a concise and telling title is mandatory. The content of a table or figure must not be too busy because then it becomes incomprehensible, e.g.; too many words or numbers makes it difficult to easily understand a table. A legend is also required if you use dotted lines or similar graphical indicators.

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